

CLAIMS

1. A water treatment apparatus comprising a treatment housing (10)
5 for treating water, the housing being connected to a reservoir (12) for receiving
treated water from the housing, the reservoir containing a heater (32) to heat the
treated water to generate steam, controls to start and stop flow of water to be
treated through the housing and to switch on the reservoir heater and to stop the
10 flow of water when sanitisation is required, whereby steam may be passed
through the apparatus in the reverse direction to the water, the housing having a
relief valve (23) for escape of the steam from the reservoir.

2. A water treatment apparatus according to Claim 1, in which the
reservoir (12) is of metal or plastic and can withstand a pressure of at least one
15 bar and a temperature up to 120°C.

3. A water treatment apparatus according to Claim 1 or 2, in which
the housing (10) is a disposable cartridge.

20 4. A water treatment apparatus according to Claim 1, 2 or 3 in which
the housing (10) contains a heater (16) to heat the water to be treated and a filter
(19) between the heater and an outlet (20) from the housing for the treated
water.

25 5. A water treatment apparatus according to Claim 4, which contains
one or more perforated meshes or screens between the heater (16) and the filter
(19).

6. A water treatment apparatus according to any preceding claim, in which the housing (10) has a probe to detect the water level and the apparatus controls are arranged to switch off incoming water when a predetermined maximum water level (18) is reached, the maximum level leaving a headspace (22) in the housing above the water.

7. A water treatment apparatus according to Claim 6, in which the relief valve (23) for the steam from the reservoir (12) is positioned above the maximum water level (18) so as to allow escape from the headspace (22) of steam and volatiles from the treated water.

8. A water treatment apparatus according to any preceding claim, which includes a heat exchanger (11) connected to an inlet (17) to the treatment housing (10) whereby untreated water can be passed through the heat exchanger on its way to the treatment housing, the heat exchanger being also connect to an outlet (20) from the treatment housing whereby heated treated water can be passed through the heat exchanger in heat exchange relationship with the incoming untreated water.

9. A water treatment apparatus according to any preceding claim, in which the reservoir heater (32) has a wattage of from 1500 to 2500 and the reservoir (12) has a capacity of from 20 to 50 litres.

10. A water treatment apparatus according to any one of Claims 1 to 8, in which the reservoir (12) with the heater (32) is a secondary tank and the apparatus includes a separate larger reservoir downstream of the tank.

11. A water treatment apparatus according to any preceding claim, in which the controls are arranged to switch on the reservoir heater (32) at the same time or shortly after flow of untreated water into the housing (10) is stopped.

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12. A water treatment apparatus according to any preceding claim, in which the pressure relief valve (23) is of the spring-loaded or dead weight type.

13. A water treatment apparatus according to any preceding claim, in which the pressure relief valve (23) leads to a condenser tube (25) and then a drain.

14. A method of sanitising water treatment apparatus of the type having a treatment housing (10) for water to be treated and a reservoir (12) for receiving treated water from the treatment housing, the method including the steps of stopping water flow through the apparatus, heating treated water in the reservoir to generate steam, and passing the steam through the apparatus in a reverse direction to a normal treatment water flow direction, whereby sufficient pressure is created by the generation of the steam to pass the steam through the apparatus in the reverse direction to the normal treatment water flow direction.

15. A method according to claim 14, in which the steam is also passed in the direction of normal treatment water flow from the reservoir (12) to sanitise apparatus downstream of the reservoir.